

Call Nr: QC 861.D8

Meteorology (Cont.)

(4250 m or 14000'); 11-16. Six polar stations, SP-1 to SP-6; and 17. Institute of Experimental Meteorology in Leningrad which is concerned mainly with the problems of artificially inducing rain, studying the formation of nuclei of condensation and freezing (seeding with dry ice was found to be the most efficient agent), and the reverse problem of dispersing fogs and clouds. Meteorological and hydrological stations and posts are classified into: a) stations of the first order, with an attached net of posts; b) meteorological stations (information) of the second order, and c) climatic stations of the third order, with d) meteorological pluviometric and hydrological posts of the first and second order. Enumeration of the topics discussed gives an idea of the book's range. Chapters II, III, X, XI, XIII on the atmosphere describe essential horizontal inhomogeneity and vertical stratification, the height of the atmosphere, and its structure. Air currents, the structure of wind and wind gustiness caused by air turbulence are also discussed. Turbulence, depending on the character of the

Card 3/20

Meteorology (Cont.)

Call Nr: QC 861.D8

air masses, is affected by the roughness, irregularity and thermal characteristics of the subjacent ground and varies with the time of year and day. Natural-and man-created obstacles affecting atmospheric equilibria, the driving force of the baric gradient with the appearance of new factors, such as the deviating force of the earth's rotation (Coriolis force), and the effect of friction are clearly presented. The stabilized movement of plain-parallel isobars (geostrophic wind) and of a similar movement for circular (cyclonic and anti-cyclonic) isobars leading to the creation of geocyclo-strophic winds are analyzed and the general circulation of the atmosphere with E and W transfers and some specific winds (breeze, foen, bora) are described. The instruments used are given in a later paragraph of this report. The optical phenomena affecting the nature, shape and color of skies of dawn and twilight are shown as step-like changes in the transparency of the atmosphere; the spread of visibility is only briefly considered. Effects of light refraction,

Card 4/20

Meteorology (Cont.)

Call Nr: QC 861.D8

the nature of green light, twinkling of stars, earth refraction and mirages are all discussed. The refraction and reflection of light in drops of water and ice crystals, rainbows, and "haloes" are referred to. Such results of light diffraction as rings and related phenomena are mentioned. The reflection and refraction and trajectories of sound, sound rays in the atmosphere, the dispersion and zones of abnormal audibility, and thunder as sound of meteorological origin are discussed. The chapter on atmospheric electricity discusses atmospheric ionization and ionizers, conductivity and electrical fields, lighting discharges, thunderstorms and methods of protection. Observations for such electrical phenomena as atmospheric glow discharge and polar lights (whose cause is not yet clear) are conducted at Pavlovsk, Tashkent, Tbilisi, Sverdlovsk, Minsk and in the far North at Dikaya Bay, Dikson Island, and the Chukotskiy promontory. Chapter IV deals with solar, earth and atmospheric radiation. The sun is the only source of radiant energy, providing yearly  $1.3 \times 10^{24}$  cal of heat; direct solar radiation is characterized by intensity (S) and is measured in

Card 5/20

Meteorology (Cont.)

Call Nr: QC 861.D8

calories absorbed by  $1\text{cm}^2/\text{min}$ . The basic laws of radiant energy, the wide range of "albedo", the spectral nature of radiation and the balance of energy are covered. To separate the effects of constant and variable factors in diminishing radiation, a new concept of atmospheric turbidity ("mutnost'") represented by  $T = \frac{a}{\epsilon}$  is introduced.  $\epsilon$  is the expression of weak-

ening due to molecular dispersion,  $w$  is a similar factor caused by existing water vapors, and  $d$  is the decrease in visibility caused by dust. The total decrease of solar radiation will thus be:  $a = \epsilon + w + d$ . Depending on the characteristics of air masses, index  $T$  is nevertheless always greater than 1. Chapters V and VI describe heat exchange in soil, water and air. The vertical distribution of temperature and the interaction between the atmosphere and the subjacent earth's surface are considered in detail. Chapters VII to IX discuss the evaporation-precipitation cycle. The modification and intensity, the electrical charges and physico-

Card 6/20

Call Nr: QC 861.D8

Meteorology (Cont..)

chemical conditions affecting the formation, stability, and precipitation of rain and snow are considered. The division into continental and marine types of precipitation, the production of artificial rain and the effect of afforestation on precipitation is fully covered. The following instruments are described in detail: Artificial climate chamber, cup barometer, syphon barometer, syphon-cup barometer, aneroid barometer, barographs, hypsothermometer (or thermobarometer), balansometer (only mentioned), pyrhelimeters, actinometers, Savinov-Yanishevskiy thermoelectric actinometer, heliograph (universal), Yanishevskiy pyranometer, albedometer, Savinov-Yanishevskiy pyrgeometer, Yanishevskiy thermoelectric balansometer, various soil thermometers, Savinov thermometer for measuring the temperature of soil at small depths, psychometric thermometer and box, sling thermometer, aspirator psychrometer, thermographs, bimetallic thermograph, evaporator ГГН-500 for measuring soil surface evaporation, evaporator ГГН-3000, rain gauges (various types), stationary psychrometer, hair hydrometer, hair hygograph,

Card 7/20

Meteorology (Cont.)

Call Nr: QC 861.D8

Tret'yakov precipitation meter, snow rod, snow weighing device for measuring snow density, Vil'd weather vane, Tret'yakov wind gauge, hand anemometer with half cups, Gerdiven apparatus for measuring the ionization of the atmosphere. The book is concluded with a large number of auxiliary tables. The book deals with Russian contributions. There are 36 bibliographic references, all Slavic. Personalities mentioned include: Alisov, B.P., Asknazi, A.I., Berg, L.S., Dyubyuk, A.F., Dzerdzeyevsky, B.L., Fedorov, E.E., Gol'tsberg, I.A., Kalitin, N.N., Kastrov, I.A., Khromov, S.P., Mikhel, V.M., Troitskiy, S.I., Fesencov, V.G., Berezkin, V.A., Sharonov, V.V., Khvostikov, I.A.

Card 8/20

*Cards 7-20 - Table of Contents*

STERNZAT, Moisey Semenovich; SAPOZHNIKOV, Aleksandr Arkad'yevich. Prinimali uchastie: YANISHEVSKIY, Yu.D.; RUSIN, N.P.; PIVOVAROVA, Z.I.. KAROL', B.P., otv.red.; YASHOGORODSKAYA, M.M., red.; BRAYNINA, M.I., tekhn.red.; FLAUM, M.Ya., tekhn.red.

[Meteorological instruments, observations, and processing of data]  
Meteorologicheskie pribory, nabludeniia i ikh obrabotka. Lenin-grad, Gidrometeor.izd-vo, 1959. 519 p. (MIRA 13:1)  
(Meteorology--Observations)

GURAL'NIK, Izrail' Iosifovich; MAMIKONOVA, Sof'ya Vartanovna; POLKOVNIKOV, Maksim Andreyevich; KAROL', B.P., otv.red.; PISAREVSKAYA, V.D., red.; PROTOPOPOV, V.S., red.; FLAUM, M.Ya., tekhn.red.

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Sof'ya Vartanovna; ~~KAROL'~~, B.P., otv.red.; MIROMENKO, Z.I.,  
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(Meteorology)

KAROL', Berta Petrovna; LIVSHITS, B.Kh., red.; BRAYNINA, M.I., tekhn.  
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[M.V.Lomonosov and meteorology] M.V.Lomonosov i meteorologiya.  
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16 no.24:164-165 '61. (MIRA 14:12)  
(Metereology--Textbooks) (Averkiev, M.S.)

7

DROZDOV, O.A.; KAROL', B.P.

All-Union Conference on the Results of the IGY. Vest. LGU 18  
no.12:142-143 '63. (MIRA 16:8)  
(International geophysical year, 1957-1958)

KAROL', B.P.

Radiation properties of glacier ice. Mat.po meteor.i klim. no.1:  
102-122 '63. (MIRA 17:3)

KHROMOV, Sergey Ietrovich; DROZDOV, G.A. ret. enzent; LEKOVSKAYA,  
T.V., ret. enzent; KAROL', B.I., otv. red.

[Meteorology and climatology for geography departments]  
Meteorologiya i klimatologiya dlia geograficheskikh fa-  
kul'tetov. Leningrad, Gidrometeoizdat, 1964. 498 p.  
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DUBINSKIY, Georgiy Petrovich, GURAL-NIK, Igorii Iosifovich;  
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SHTANNIKOVA, L.I., ed.

[Meteorology] Meteorologiya. Leningrad, Gidrometeoizdat,  
1965. 448 p. (MIRA 18:12)

KAROL', I. I.

Mathematical Reviews  
Vol. 14 No. 8  
Sept. 1953  
Analysis

8-9-54  
LL

Karol', I. I. On a boundary problem for an equation of mixed elliptic-hyperbolic type. Doklady Akad. Nauk SSSR (N.S.) 88, 197-200 (1953). (Russian)

The Tricomi problem is discussed for the equation

$$(*) \quad u_{xx} + \text{sign } y |y|^m u_{yy} = 0, \quad 0 < m < 1.$$

The domain considered consists of the normal curve  $\Gamma$ :  $y = (1-2\beta)^{1/(m-2)} [x(1-x)]^{1-\beta}$ ,  $0 \leq x \leq 1$ , where  $\beta = m/2(m-2)$ , and the two characteristics which issue from the points  $(0, 0)$ ,  $(1, 0)$ , respectively, which intersect. Boundary values are prescribed on  $\Gamma$  and on one of the characteristics. By following the methods Tricomi employed for the case  $m = -1$ , the author sets up an integral equation for  $u_y(x, 0)$ , and obtains an explicit solution. The uniqueness follows from the form  $\Gamma$  as obtained. Since the characteristics are tangent to the  $x$ -axis rather than normal as in the case  $m < 0$ , the boundary values are required to satisfy an additional restriction at the boundary points  $(0, 0)$  and  $(1, 0)$ . The solution obtained is a strict solution in the elliptic portion of the domain and a "generalized" solution in the hyperbolic part. M. H. Protter. (Berkeley, Calif.).



KAROL, K. L.

Mathematical Reviews  
Vol. 14 No. 8  
Sept. 1953  
Analysis

7-13-54  
LL

Karol', I. L. On the theory of equations of mixed type.  
Doklady Akad. Nauk SSSR (N.S.) 88, 397-400 (1953).  
(Russian)

This note continues the work started earlier [see the above review for notation] and discusses the equation

$$u_{xx} + y u_{yy} + \alpha u_x = 0,$$

where  $\alpha$  is a real constant. By a change of variable this equation can be reduced to (\*) with the correspondences:  $0 < \alpha < \frac{1}{2}$  corresponds to  $0 < m < 1$ ,  $\alpha = \frac{1}{2}$  to  $m = 0$ , and  $\frac{1}{2} < \alpha < 1$  to  $m < 0$ . Then the solution of the Tricomi problem for  $\frac{1}{2} < \alpha < 1$  is reduced to a problem solved by Gellerstedt [Thesis, Uppsala, 1935]; for  $\alpha = \frac{1}{2}$  it is reduced to a problem solved by Lavrent'ev and Bicadze [same Doklady (N.S.) 70, 373-376 (1950); these Rev. 11, 724]; and the case  $0 < \alpha < \frac{1}{2}$  is reduced to equation (\*) above. For the case  $\alpha < 0$  the following problem is solvable: boundary values assigned along  $\Gamma$  and both characteristics, i.e., the Dirichlet problem. Again a restriction must be placed on the boundary values at  $(0, 0)$  and  $(1, 0)$ . For  $\alpha > 1$  the solution in general becomes infinite on the  $x$ -axis.

M. H. Proffer.

KAROL, I. L.

USSR/Mathematics - Boundary problems

Card 1/1 Pub. 22 - 2/51

Authors : Karol', I. L.

Title : Boundary problems for the equation of the mixed elliptical-hyperbolic type

Periodical : Dok. AN SSSR 101/5, 793-796, Apr 11, 1955

Abstract : Some boundary problems are considered for the mixed elliptical-hyperbolic type equation

$U_{xx} + yU_{yy} + \alpha U_y = 0$   
when the  $\alpha$  is the real part of a constant which is  $> 0$ . Three USSR references (1951-1953).

Institution : Sverdlovsk State Pedagogical Institute

Presented by: Academician V. I. Smirnov, December 27, 1954

KAROL', I.L. (Sverdlosk)

Theory of boundary value problems for an equation of mixed  
elliptic-hyperbolic type. Mat.sbor. no.3:261-282 Mr.'56.  
(Differential equations, Partial) (MIRA 9:6)

KAROL', I.L.

Boundary problems for mixed-type equations. Vest.Len.un. 11 no.1:  
177-181 '56. (MLRA 9:5)

(Surfaces) (Equations, Theory of)

SUBJECT USSR/MATHEMATICS/Differential equations CARD 1/1 PG - 188  
AUTHOR KAROL' I.L.  
TITLE On the theory of the boundary value problems for equations  
of mixed elliptic-hyperbolic type.  
PERIODICAL Mat. Sbornik, n. Ser. 38, 261-282 (1956)  
reviewed 8/1956

This paper contains the proofs of results announced earlier (Karol' , Doklady Akad. Nauk 88, 397-400 (1953) and Doklady Akad. Nauk 101, 793-796 (1955)).

SOV/49-59-7-20/22

AUTHOR: Karol', I. L.

TITLE: On the Effect of the Surface Atmospheric Layer on the Dispersion of a Heavy Homogeneous Mixture Produced Instantaneously by a High Level Spot-Source

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1959, Nr 7, pp 1079-1084 (USSR)

ABSTRACT: The problem is considered in relation to the vertical coefficient of diffusion  $K_z$ . A concentration of the mixture for a mean value of  $K_z$  can be expressed as the function  $q^*(z, t)$  and its solution Eq (1.1) for the conditions (1.2), (1.3) and (1.4), where  $H$  - height of the source,  $z$  - vertical coordinate,  $t$  - time,  $w$  - constant gravitational velocity of the falling mixture,  $z_0$  - height of the "rough layer",  $\delta(x)$  - Dirak's  $\delta$ -function,  $\beta$  - parameter characterizing the rate of reflection of the mixture from the ground surface,  $\kappa = 0.38$  - Karman's constant,  $v_x$  - "rate of friction",  $L$  - vertical height scale of the layer. If the parameters at the foot of p 1079 are introduced, then the function  $q(\zeta, \tau)$  can be determined by the formulae (1.8)-(2.6) which represent the

Card 1/4

NOV/49-59-7-20/22

On the Effect of the Surface Atmospheric Layer on the Dispersion of  
a Heavy Homogeneous Mixture Produced Instantaneously by a High  
Level Spot-Source

solution of Eq (1.5) for the conditions (1.6) and (1.7)  
In practice the conditions at the ground surface, i.e. at  
the plane  $\zeta = \zeta_0$  are the most significant. The value  
of  $q$  in this case can be defined as Eqs (3.1)-(3.3) which  
are obtained from Eq (2.5) for the limiting values of  $C_1^{(1)}$   
and  $C_2^{(1)}$  at  $\delta \rightarrow \infty$ . Since Eq (3.3) cannot be solved by  
an ordinary method, it is represented in the form (3.4),  
from which the final formula (3.5) is derived. A further

Card 2/4

SOV/49-59-7-20/22

On the Effect of the Surface Atmospheric Layer on the Dispersion of  
A Heavy Homogeneous Mixture Produced Instantaneously by a High Level  
Spot-Source

modification of the formulae (3.4) and (3.5) is made in order to simplify the numerical calculations. Thus, Eqs (4.1)-(4.6) are obtained. The analysis of the formula (4.6) shows that  $\delta = \nu$  when  $\zeta_0 \rightarrow 0$ , i.e. the expression (5.2) takes place. The accuracy of calculation in the case of  $0 < \zeta_0 \ll 1$  increases when the value of  $\nu$  increases and that of  $\zeta$  decreases. This can be seen from Eqs (5.3) to (5.6). Since the real magnitude of  $\zeta_0$  is very small ( $\zeta_0 \sim 10^{-3}$ ) the formula (5.1) can be taken for practical purposes. The following considerations, based on Eqs (5.1), (5.4) and (5.5) can be made. When the heavy particles with a large falling velocity  $w$  and the parameter  $\beta$  of the condition (1.3) are large (i.e. due to the weight of the particles), then the effect of the atmosphere becomes negligible. In the case of the particles,  $w$  and  $\beta$  being

Card 3/4



SOV/49-59-7-20/22

On the Effect of the Surface Atmospheric Layer on the Dispersion of  
A Heavy Homogeneous Mixture Produced Instantaneously by a High Level  
Spot-Source

large, the lowest layer of mixture becomes reflected from  
the ground surface. In order to analyze the variations  
of  $\beta$ , the formula (4.6) can be applied. There are 4  
Soviet references.

ASSOCIATION: Akademiya nauk SSSR, Institut prikladnoy geofiziki  
(Academy of Sciences USSR, Institute of Applied Geophysics)

SUBMITTED: June 10, 1958.

Card 4/4

KAROL', I.G.; PRESSMAN, A.Ya.

Dispersion of heavy polydisperse aerosols in a turbulent atmosphere  
at a long distance from their instantaneous point source. Inzh.-fiz.  
zhur. no.9:83-91 S '59. (MIRA 13:1)

1. Institut prikladnoy geofiziki AN SSSR, g.Moskva.  
(Aerosols)

S/170/60/003/04/09/027  
B007/B102

AUTHOR: Karol', I.L.

TITLE: On the Semi-empirical Theory of Vertical Turbulent Diffusion in the Boundary Layer of the Atmosphere

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1960, Vol. 3, No. 4, pp. 54-64

TEXT: A number of processes in the boundary layer of the atmosphere (turbulent diffusion of aerosol etc.) are, within the scope of the semi-empirical theory of turbulence, traced back to a mixed problem for the parabolic equation of vertical turbulent diffusion, equation (1.1). Here, one of such mixed problems for equation (1.1) with the simplest initial condition (1.2) (in which  $\delta(x)$  - the delta function - is the instantaneous point source in the height H) and the boundary conditions (1.3) is investigated. The two-layer model is assumed for the change of  $K_z$  (vertical coefficient of turbulent diffusion) along the vertical line in the boundary layer of the atmosphere (Refs. 3,4): Formula (1.4). In this nonsteady problem on the diffusion of a homogeneous aerosol from an instantaneous point source the influence of the boundary condition at

Card 1/2



On the Semi-empirical Theory of Vertical Turbulent  
Diffusion in the Boundary Layer of the Atmosphere

S/170/60/003/04/09/027  
B007/B102

earth level on the distribution of the aerosol concentration along the vertical line is investigated. The possibility of a second boundary condition (1.3) at the level  $z = 0$  ( $z$  denoting the vertical coordinate) is investigated as depending on temperature stratification  $\epsilon$  and on the average vertical velocity  $w$  in the transfer of the diffusing quantity as well as the influence of this boundary condition on the solution of the mixed problem (1.1) - (1.3). Asymptotic formulas for solving this problem in the case of high values of the parameter  $H$  and of the time  $t$  are obtained. In order to remain concrete the vertical turbulent diffusion of a heavy conventional admixture (of the aerosol) with constant velocity of sinking  $w \geq 0$  from the point source is dealt with, although the results obtained hold also for other processes in the atmosphere as long as they are expressed by the solution of the problem (1.1) - (1.3). Three theorems are formulated, and a physical explanation is given for the second and third theorem. The Lommel' integral (Ref. 5) and the paper by A. M. Il'in (Ref. 2) are mentioned. There are 8 references, 7 of which are Soviet.

ASSOCIATION: Institut prikladnoy geofiziki AN SSSR, g. Moskva (Institute for  
Applied Geophysics of the AS USSR, City of Moscow)

Card 2/2

80081

S/020/60/131/06/15/071

B014/B007

3.9000

AUTHOR: Karol', I. L.

TITLE: The Influence of Turbulent Diffusion in the Direction of the Wind  
Upon the Concentration Distribution of the Substance Spread in the  
Atmosphere

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 131, No. 6, pp. 1283 - 1286

TEXT: A number of atmospheric processes is described by the solution of the semiempirical equation (1) for turbulent diffusion. The boundary- and initial conditions (2) and (3) of this equation are described. In the present paper, the influence of turbulent diffusion in the direction of the x-axis upon the distribution  $q_1(x,y,z)$  of the substance in the case of a single stationary point source is investigated. Further, the influence exerted upon the surface concentration  $\sigma^*(x,y)$  of the substance on the Earth's surface is estimated for the case of a single spontaneous point source. After the introduction of dimensionless variables (4) a solution of the problem (1) - (3) is given, and for  $q_1$  the integral (7) is written down. During the estimation of the influence exerted by

Card 1/3 2

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The Influence of Turbulent Diffusion in the Direction  
of the Wind Upon the Concentration Distribution of the  
Substance Spread in the Atmosphere

80081

S/020/60/131/06/15/071

B014/B007

turbulent diffusion upon  $q_1$ , an asymptotic separation of integral (7) is performed. For  $q_1$ , the author obtains equation (9), in which the quantity  $r_1$  represents the relative error in volume concentration  $q_1$  with neglect of the diffusion in the direction of the wind. The problem now consists in finding a region of the values of the variables of  $q_1$ , for which the relation  $|r_1| \leq \varepsilon$  holds. This region is a cone-shaped body, which extends infinitely in the direction of the beam. In conclusion, diffusion in atmospheric regions near the Earth are dealt with, an indifferent stratification being assumed. It is shown that the relative error arising from the neglect of diffusion in the direction of the wind when calculating  $q_1$  becomes sufficiently small at a corresponding distance from the source. Two examples are discussed. There are 7 Soviet references.

ASSOCIATION: Institut prikladnoy geofiziki Akademii nauk SSSR (Institute of  
Applied Geophysics of the Academy of Sciences, USSR)

Card 2/3 2

PHASE I BOOK EXPLOITATION

SOV/6277

Karol', I. L., and S. G. Malakhov, Candidates of Physics and Mathematics, eds., ..

Voprosy yadernoy meteorologii; sbornik statey (Problems in Nuclear Meteorology; a Collection of Articles) Moscow, Gosatomizdat, 1962.  
271 p. Errata slip inserted. 2600 copies printed.

Ed.: A. I. Zavodchikova; Tech. Ed.: Ye. I. Mazel'.

PURPOSE: The book is intended for meteorologists and physicists specializing in the physics of the atmosphere. It may also be of interest to oceanographers concerned with the contamination of seas and oceans with radioactive waste products.

COVERAGE: This is a collection of 15 articles dealing with various problems of nuclear meteorology. The rapid development of the methods of radiometry opened the possibility of measuring minute particles of radioactive substances

Card 1/6

Problems in Nuclear Meteorology (Cont.)

SOV/6277

with a great degree of accuracy. This again made it possible to use radioactive isotopes in various fields of science, including meteorology. Tests of nuclear arms and the dispersion into the atmosphere of the waste of atomic industry necessitated a thorough investigation of the patterns of the spread of aerosols and gases, sometimes throughout almost the entire atmosphere. Such investigation is connected with the wide use of the newest methods and results of meteorology and the physics of the atmosphere in general. On the other hand, the distribution in the atmosphere of air masses, labeled with radioactive atoms, gives the meteorologists a new method for the study of atmospheric processes. The entire complex of problems related to the study of the distribution of radioactive impurities in the atmosphere and the use of radioactive atoms as labels in air masses or clouds has lately received the name of "nuclear meteorology" and is regarded as a branch of the physics of the atmosphere. The present collection contains some general articles, as well as articles reporting on the results of special investigations of certain problems of nuclear meteorology conducted in 1960-1961. It is divided in three sections, each dealing with a certain type of problem of nuclear meteorology. Bibliographic references are included at the end of individual articles.

Card 2/6



Problems in Nuclear Meteorology (Cont.)

SOV/6277

TABLE OF CONTENTS:

Foreword

SECTION ONE

RADIOACTIVE ISOTOPES IN THE ATMOSPHERE AND  
THEIR USE FOR THE STUDY OF ATMOSPHERIC  
MOVEMENTS

<u>Karol, I. L.</u> , and S. G. Malakhov. Use of Natural Radioactive Isotopes in the Atmosphere for Meteorological Studies	5
Kirdin, G. S. Uses of Radioactive Carbon in Geophysical Investigation	43
Kirichenko, L. V. Measurement of Short-Lived Radioactive Aerosols in the Free Atmosphere	65
Card 3/6	

Problems in Nuclear Meteorology (Cont.)

SOV/6277

Kirichenko, L. V. Vertical Distribution of the Decay Products of  
Radon in the Free Atmosphere 75

Sisigina, T. I. Measurement of Emanation of Radon From the Surface  
of Various Rocks 104

SECTION TWO

WASHOUT OF RADIOACTIVE AEROSOLS FROM THE  
ATMOSPHERE BY PRECIPITATION

Zimin, A. B. Mechanism of Capture and Deposition of Atmospheric  
Impurities by Clouds and Precipitation 116

Malakhov, S. G., and L. D. Solodikhina. Washout of the Decay  
Products of Radon From the Atmosphere by Rain 151

Card 4/6

Problems in Nuclear Meteorology (Cont.)

SOV/6277

Dmitriyeva, G. V. Effect of Atmospheric Precipitation on the  
Radioactivity of the Surface Layer of the Atmosphere

163

SECTION THREE

TURBULENT DIFFUSION OF AEROSOLS IN THE ATMOSPHERE

Byzova, N. L. Formulas for Calculation of the Turbulent Diffusion  
of a Settling Admixture From a Point Source and Their Application  
for Test Analysis

177

Karol', I. L. Role of Turbulent Dispersal to Windward in the Semi-  
empirical Theory of Atmospheric Turbulent Diffusion

190

Karol', I. L. Effect of Vertical Turbulent Diffusion on the Deposition  
of an Inhomogeneous Atmospheric Aerosol

204

Card 5/6

Problems in Nuclear Meteorology (Cont.)

SOV/6277

Bekoryukov, V. I., and L. L. Karol'. Theoretical Evaluation of the Effectiveness of Capturing Aerosols With Gummed-Paper Collectors in the Surface Layer of the Atmosphere 221

Bekoryukov, V. I. On the Evaluation of the Effectiveness of Capturing Aerosols With Gummed-Paper Collectors in the Surface Layer of the Atmosphere 249

Makhon'ko, K. P. Daily Variation in the Dust Contamination of the Atmospheric Surface Layer 253

Sereda, G. A. Contamination of Seas and Oceans With Artificial Radioactive Substances 259

AVAILABLE: Library of Congress

SUBJECT: Meteorology

MM/jhq/mas

Card 6/6

5-7-63

ACCESSION NR: AP4000424

S/0049/63/000/011/1718/1729

AUTHOR: Karol', I. L..

TITLE: Estimation of the average rate of removal of natural radioactive aerosols from the atmosphere by clouds and precipitation

SOURCE: AN SSSR. Izvestiya. Seriya geofizicheskaya, no. 11, 1963, 1718-1729

TOPIC TAGS: meteorology, radioactivity, radioactive aerosol, radioactive precipitation, lower troposphere, aerosol removal, aerosol concentration, aerosol, natural radioactive aerosol

ABSTRACT: A method is described by which the mean rate at which aerosols containing radioactive decay products are removed from the lower troposphere by clouds and aerosol settling can be determined. This method involves the measurement of the relative radioactivity of two isotopes in the surface boundary layer and in precipitation. The effects of mechanisms resulting in aerosol removal are vertical turbulent diffusion and precipitation and clouds occurring only in the lower layer (3—7 km above ground), turbulence being the only active medium at higher altitudes. Clouds and rain

Card 1/2

ACCESSION NR: AP4000424

remove only the decay products. Radon, being a gas, is not affected. Results of studies made with this method indicate that the coefficient of removal of radioactive Ra isotopes under average conditions is  $2 \text{ to } 10 \times 10^{-6} \text{ sec}^{-1}$  and the period  $\tau$  is 1—6 days. The removal coefficient is based on scattered measurements of RaD, RaE, and RaF in the surface boundary layer and in precipitation and should be considered as preliminary only. Orig. art. has: 22 formulas, 4 tables, and 3 figures.

ASSOCIATION: none

SUBMITTED: 11Feb63

DATE ACQ: 05Dec63

ENCL: 00

SUB CODE: AS

NO REF SOV: 005

OTHER: 006

Card 2/2

KAROL', I. L.; MALAKHOV, S. G.; KIKOIN, I. K.

"Use of isotopes for quantitative investigation of atmosphere movement."

report submitted for 3rd Intl Conf, Peaceful Uses of Atomic Energy, Geneva,  
31 Aug-9 Sep 64.

KAROL', I.L., red.; KIRICHENKO, L.V., red.; KRASNOPEVTSEV, Yu.V.,  
red.; KURGANSKAYA, V.M., red.; MALAKHOV, S.G., red.;  
SEREDA, G.A., red.; YAGODOVSKIY, I.V., red.; KALYUZHNAJA,  
T.P., red.

[Radioactive isotopes in the atmosphere and their use in  
meteorology; reports] Radioaktivnye izotopy v atmosfere i  
ikh ispol'zovanie v meteorologii; doklady. Moskva, Atom-  
izdat, 1965. 491 p. (MIRA 18:7)

1. Nauchnaya konferentsiya po yadernoy meteorologii, 2d.  
Obninsk, 1964.



KAROL', I. L.

"Quantitative investigation of stratospheric mixing processes by means of long-lived radon decay products."

paper to be presented at Symposium on Atmospheric Chemistry, Circulation and Aerosols, Visby, Sweden, 18-25 Aug 1965.

Hydrometeorological Service USSR.

L 3098-66 EWT(1)/EWT(m)/FCC DIAAP GS/GW  
ACCESSION NR: AT5023930

UR/0000/65/060/000/0107/0119

AUTHOR: Karol', I. L.; Vilenskiy, V. D.

TITLE: Estimates of the parameters of vertical exchange and the average rate of aerosol removal by clouds and precipitation in the lower part of the troposphere based on natural radioactivity data of the surface boundary layer of air

SOURCE: Nauchnaya konferentsiya po yadernoy meteorologii. Obninsk, 1964. Radioaktivnyye izotopy v atmosfere i ikh ispol'zovaniye v meteorologii (Radioactive isotopes in the atmosphere and their use in meteorology); doklady konferentsii. Moscow, Atomizdat, 1965, 107-119

TOPIC TAGS: nuclear meteorology, radioactive aerosol, radioactive isotope, troposphere, radioactive tracer, atmospheric turbulence, radon exhalation, atmospheric boundary layer, aerosol

ABSTRACT: A theoretical scheme is discussed for separately calculating the effect of vertical turbulent diffusion of aerosols and their washout by clouds and precipitation on the time naturally radioactive aerosols remain in the atmosphere. Such a scheme was proposed by Karol' in an earlier paper (Izv. Akad. nauk, Ser. geofiz., no. 11, 1963) for a horizontally homogeneous, two-layer model of the troposphere; it is elaborated and checked here using measurements of the decay rate of radon

Card 1/2

L 3098-66

ACCESSION NR: AT5023930

isotopes made in Western Europe and the Moscow region, as well as seasonal measurements of meteorological and soil factors. Orig. art. has: 2 figures, 14 formulas, and 6 tables. [ER]

ASSOCIATION: none

SUBMITTED: 28Apr65

ENCL: 00

SUB CODE: ES, NP

NO REF SOV: 008

OTHER: 003

ATD PRESS: 4101

*bebi*

Card 2/2

L 3100-66 EWT(1)/EWT(m)/ECC DIAAP GS/GW  
ACCESSION NR: AT5023932

UR/0000/65/000/000/0132/0152

AUTHOR: Karol', I. L.

38  
B+1

TITLE: The planetary distribution of  $Pb^{210}$  in the free atmosphere and its use in estimating vertical exchange parameters and washout of aerosols by clouds and precipitation, as well as the rate of exchange between the troposphere and stratosphere in the Northern and Southern Hemispheres.

SOURCE: Nauchnaya konferentsiya po yadernoy meteorologii. Obninsk, 1964. Radioaktivnyye izotopy v atmosfere i ikh ispol'zovaniye v meteorologii (Radioactive isotopes in the atmosphere and their use in meteorology); doklady konferentsii. Moscow, Atomizdat, 1965, 132-152

TOPIC TAGS: nuclear meteorology, radioactive tracer, radioactive aerosol, radioactive isotope, aerosol washout, atmospheric radioactivity distribution, troposphere, stratosphere

ABSTRACT: Preliminary results are given for the use of a theoretical three-layer model of the atmosphere (stratosphere, upper troposphere, and aerosol-washout layer) to determine the vertical profile of  $Pb^{210}$  in the extratropical latitudes of the Northern Hemisphere and its use in estimating the exchange rate between these layers and the washout of aerosols by clouds and precipitation. Theoretical Card 1/2

L 3100-66

ACCESSION NR: AT5023932

formulas are tested with actual measurements, and calculations are made of the annual balance of  $Pb^{210}$  in the stratosphere of both the northern and southern latitudes. Orig. art. has: 5 figures, 17 formulas, and 7 tables. [ER]

ASSOCIATION: none

SUBMITTED: 28Apr65

ENCL: 00

SUB CODE: ES, NP

NO REF SOV: 010

OTHER: 006

ATD PRESS: 4101

  
Card 2/2

L 2653-66 EWT(1)/EWT(m)/FCC/EWA(h) GS/GW

UR/0000/65/000/000/0244/0282

ACCESSION NR: AT5023941

AUTHOR: Karol', I. L.; Malakhov, S. G.

TITLE: Global distribution in the atmosphere and the fallout of the radioactive products of nuclear explosions

SOURCE: Nauchnaya konferentsiya po yadernoy meteorologii. Obninsk, 1964 Radio-aktivnyye izotopy v atmosfere i ikh ispol'zovaniye v meteorologii (Radioactive isotopes in the atmosphere and their use in meteorology); doklady konferentsii. Moscow, Atomizdat, 1965, 244-282

TOPIC TAGS: nuclear meteorology, atmospheric pollution, radioactive fallout, radioactive aerosol, radioactive tracer, atmospheric pollutant dispersion, nuclear fission product, global pollutant distribution

ABSTRACT: The purpose of this paper is to collect and systematize the results of research on the global distribution in the atmosphere and the fallout on the earth's surface of the radioactive products of nuclear explosions, recently published (1957-1965) in the world literature. Data are summarized and referenced to the literature (119 references) under the following topics: 1) primary parameters of nuclear explosions determining the global distribution of radioactive products in the atmosphere, 2) dispersion of these radioactive products from the upper atmosphere, Card 1/2

L 2653-66

ACCESSION NR: AT5023941

3) their dispersion from the lower stratosphere, 4) transfer of these radioactive products through the tropopause and estimation of the average time they remain in the stratosphere, 5) dispersion of these products from the stratosphere into the troposphere and their fallout on the underlying surface, and 6) removal of radioactive aerosols from the lower troposphere. The authors recommend concentrating future research in this area as follows: 1) quantitative research on the nature of nuclear-explosion products in the atmosphere (mainly in the stratosphere and tropopause) and related atmospheric processes using additional tracers, such as natural radioactive aerosols, ozone,  $C^{14}$ ,  $CO^2$ , tritium, water vapor, etc.; 2) studies of the relationship between various meteorological processes originating in the troposphere and fallout on earth (baric formations, interlatitudinal exchange and seasonal changes, meridional circulation and their fluctuations, precipitation, and the frequencies of occurrence of all of these parameters); 3) studies of the dispersion states of aerosol-carriers of radioactive products of nuclear explosions and their effects on the general dispersion patterns in the atmosphere (formation, coagulation, fractionation, and separation of individual radioactive isotopes); and 4) studies of the processes of cleansing the lower troposphere of radioactive aerosols. Orig. art. has: 13 figures, 6 formulas, and 4 tables. [ER]

Card 2/2

L 2653-66

ACCESSION NR: AT5023941

ASSOCIATION: none

SUBMITTED: 28Apr65

ENCL: 00

SUB CODE: ES, NP

NO REF SOV: 045

OTHER: 074

ATD PRESS: 4101

Card 3/3

intensities of world-wide radioactive fallout over the oceans and continents was carried out through an estimation of accumulated  $Sr^{90}$  at the same latitudes in a unit area of the ocean surface and a unit area of continental surface. The results of direct measurement of radioactive-fallout intensity on the continents and on the islands and the data on the concentration of radioactive fission products in the air above the sea surface and above the surface of dry land were also taken into account. On the basis of these data, it is supposed that the intensity of radioactive fallout over the sea surface is greater than over dry land. Orig. art. has: 5 tables and 4 figures.

SUB CODE: 18, 08/ SUBM DATE: none/ ORIG REF: 018/ OTH REF: 010

Card 1/1



621.311.15 : 621.311.22  
775. Equations of integral curve of power generation  
[modified load curve] and fuel consumption by thermal  
stations. L. A. KAROL. *Gidrotekh. Stroit., No. 9,*  
30-2 (Sept., 1958) In Russian.  
Equations of a modified load curve giving relationship between power and energy production are simplified by taking as origin the point of max. power and max. energy. Further simplifications are obtained by use of empirical coefficients. The fuel consumption of a thermal power station covering peak loads of a hydro-electric station is determined. 2. LUKASZEWICZ

KARCI', I. A., Engineer

"Fundamentals of Application of Water Storage in Power Systems of the USSR."  
Sub 22 Jun 51, Moscow Order of Lenin Power Engineering Institute V. M.  
Molotov

Dissertations presented for science and engineering degrees in  
Moscow during 1951.

SC: Sum. No. 480, 9 May 55

KAROL', L.A., kandidat tekhnicheskikh nauk

Pumped storage of water power. Trudy MEI no.12:44-48 '54.  
(MIRA 8:10)

1. Kafedra gidroenergetiki  
(Hydroelectric power stations)

112-57-8-16329

Translation from: Referativnyy zhurnal, Elektrotehnika, 1957, Nr 8, p 41 (USSR)

AUTHOR: Karol', L. A.

TITLE: Utilization of Excess Seasonal Hydropower  
(Ispol'zovaniye izbytochnoy sezonnoy gidroenergii)

PERIODICAL: Tr. Mosk. energ. in-ta (Transactions of the Moscow Power-  
Engineering Institute), 1956, Nr 19, pp 87-95

ABSTRACT: The Chair of Hydropower and the Chair of Thermal Plants of MEI investigated the operating conditions of high-power Volga River hydroelectric stations with seasonal water control, and those of the thermal electric stations of the central power system. It was found that during the high-water time, with hydroelectric stations carrying full diurnal load, the thermal stations will have to carry a highly fluctuating load over the day period; during the slack night hours, a large number of condensation turbines and boilers will either have to run idle or be shut down, with associated extra fuel consumption and a number of difficulties. At the same time, the hydroelectric stations will not be fully loaded, and a part of the water will be spilled. During the high-water

Card 1/2

*Chair of Hydropower Engineering*

NIKITIN, Sergey Nikolayevich, dotsent, kand.tekhn.nauk [deceased]; KAROL',  
L.A., kand.tekhn.nauk, red.; SHIMEL'MITS, I.Ya., inzh., red.;  
KRITSKIY, S.N., doktor tekhn.nauk, retsenzent; AYVAZYAN, V.G.,  
prof., doktor tekhn.nauk, retsenzent; ALEKSANDROVSKIY, Yu.A.,  
dotsent, kand.tekhn.nauk, retsenzent; ORLOV, V.A., red.; BORUNOV,  
N.I., tekhn.red.

[Principles of calculations connected with hydroelectric power]  
Osnovy gidroenergeticheskikh raschatov. Moskva, Gos.energ.izd-vo,  
1959. 510 p. (MIRA 12:5)

(Hydroelectric power)

ZOLOTAREV, T.L., doktor tekhn.nauk; KAROL', L.A., kand.tekhn.nauk; SEYFULLA,  
D.O., kand.tekhn.nauk

Concerning the determination of fuel costs and heat contribution of  
hydroelectric power stations. Elektrichestvo no.12:83-84 D '61.  
(MIRA 14:12)

1. Moskovskiy energeticheskiy institut.  
(Interconnected electric utility systems--Accounting) (Fuel)

KAROL', L.A., kand.tekhn.nauk; ZLATOPOL'SKIY, A.N., kand.tekhn.nauk

Determining the saving of fuel in an electric power system using  
water power. Gidr. stroi. 31 no.1:27-33 Ja '61. (MIRA 14:2)  
(Hydroelectric power stations)

GORNSHTEYN, V.M., kand.tekhn.nauk: KAROL', L.A., kand.tekhn.nauk  
ZLATOPOL'SKIY, A.N., kand.tekhn.nauk

Fuel efficiency of hydroelectric power stations. Gidr. stroi. 32  
no.10:41-44 0 '61. (MIRA 14:10)  
(Hydroelectric power stations)



KAROL', L.A., kand.tekhn,nauk, dotsent

Features of hydroelectric power in the economy of fuel. Trudy MEI  
no.35:5-18 '61. (MIRA 15:12)  
(Water power) (Power resources)

KAROL', L.A., kand.tekhn.nauk

Evaluation of the operation of a hydroelectric power station over  
a 24-hour period according to equivalent fuel displacement. Trudy  
MEI no.46:45-60 '63. (MIRA 18:3)

1. Kafedra gidroenergetiki Moskovskogo ordena Lenina energeti-  
cheskogo instituta.

KAROL', L.A., kand. tekhn. nauk

Zonal distribution of hydroelectric power in daily load graphs.

Elek. sta. 36 no.2:30-33 F '65.

(MIRA 18:4)

RAML, V.

Strengthening the technical base. p. 30.

KUCPI OTIVNO ARABOLIE, Sofiya, Vol. 11, no. 1, Jan. 1950.

3: Monthly list of West European Accessions, (RAML), 10, Vol. 5, No. 6 June 1956,  
Encl.

FRAIS, Jindrich; KAHOLA, Jan

Gluing felt pads under abrasive paper on cylindrical grinding machines. Drevo 18 no.10:378-379 0 '63.

1. Vysoka skola lenicka a drevarska, Zvolen.

FRAIS, Jindrich; KAPOLA, Jan

Improved cutting tool for Libich mortisers. Drevo 19 no.9:347-349  
S '64.

1. Faculty of Wood Industry of the Higher School of Forestry and  
Wood Industry, Zvolen.

KAROLAK, W.

KAROLAK, W. SIKORSKI, J.

"The Goodetic Section of the Evening School of Engineering of Lodz." p. 59  
(Pracelad Goodczyzny. Vol. 10, no. 2 Feb 1954, Warsz wa.)

SO: Monthly List of East European Accessions. Vol. 3, no. 5  
Library of Congress, June 1954, Uncl.

KAROLCEK, J.

~~Source: [illegible]~~  
Inflammatory diseases of the human respiratory tract due to Pasteurella. Bratisl.lék.listy 31 no.3-4:381-391 1951. (JML 21:1)

1. Of the Bacteriologic-Serological Department of the Third Division of SZU State Institute in Bratislava.



KAROLCEK, J. (Bratislava, Sasinkova, 9)

~~Current problems in typhoid fever.~~ Lek.obzor 3 no.10:561-568 1954.

1. Z ustavu epidemiologie a mikrobiologie obl. ustavu v Bratislave.  
(TYPHOID FEVER, prevention and control,  
current status)

EXCERPTA MEDICA Sec 9 Vol. 9/11 Surgery Nov 55

KAROLČEK J.

KAROLČEK J. and HEGYI E. Úst. epidem. a mikrobiol., obl. Úst. v Bratislave; Kožnej klin. LFŠU v Bratislave. \* Antibakteriálne a iné biologické účinky lepiacej hmoty náplsti a prírodných živíc v pokusoch in vivo a in vitro. Antibacterial and other biological effects of the adhesive substance of plaster and natural resins in experiments made in vivo and in vitro BRATISLAVSKE LEKÁRSK. LISTY 1954, 34/5 (484-496) Graphs 1 Tables 4

influence of adhesive plaster employed directly on pathological skin processes especially on ulcer cruris was examined. Remarkable antibacterial effect which was to have a healing result in patients was shown. Increased phagocytosis induced by extracts from adhesive plaster was proved as well as the increased multiplication of fibroblasts. Turpentine balsam and colophonium have antibacterial effect on Streptococcus haemolyticus and Staphylococcus aureus. The extracts remained without any effect on Esch. coli, proteus, pseudomonas and S. Wagner - Plzeň (IV, 9)

KAROLČEK, J.

CZECH

Selective effect of rhodanides on reproduction of bacteria.  
Ján Karolček and Jolana Borecká (Ústav epidemiol.  
mikrobiol., Bratislava). *Českoslov. hyg., epidemiol., mikro-  
biol., imunol.* 4, 128-31 (1958). Strains of staphylococci,  
enterococci, and gram-pos. nonpathogenic sporulating  
bacteria possess considerably greater resistance *in vitro* to  
KCNS and NH<sub>4</sub>CNS than the gram-pos. cocci and gram-  
neg. rods of the *Enterobacteriaceae* group. These findings  
were utilized in devising a suitable medium for the selective  
isolation of certain bacteria.

Le J. Urbanek

KAROLČEK, J. EXCERPTA MEDICA Sec. 4 Vol. 9/11 Microbiology, etc. Nov 56

2682. KAROLČEK J. Obl. Úst. Epidemiol. a Mikrobiol., Bratislava. \*Použitie  
vysvetlenia fagocytárneho indexu ako pomocného testu pre dokaz bacilonosič-  
stva brušného týfu. Determination of the phagocytic index as  
an auxiliary test for the demonstration of typhoid car-  
riers BRATISLAVSKÉ LÉKARS. LISTY 1955, 35/4 (199-203) Graphs 1  
This is a useful auxiliary test, because Vi agglutination and Vi haemagglutination  
are not always specific and in 10%-15% of carriers are negative. In 6 of 40 car-  
riers of typhoid fever the phagocytic index was lower than 1, as in normal people.  
An index higher than 1 is suspect for the carrier state or signifies that the subject  
has recently had typhoid fever.

Procházka - Prague (XX, 4, 6, 17)

COUNTRY: Czechoslovakia  
 CATEGORY: Microbiology

ATC. JOURN. Ref Zhur-Biologiya, No.4, 1959, No. 14895

AUTHOR: Karolsek, J., Hruzik, J., Odler, I., Sitar, E.,  
 DRASKOVICOVA, M.

TITLE: Experimental Treatment of Bacterial Carriers  
 Following Typhoid and Paratyphoid Fever.

ORIG. PUB. Ceskosl. epidemiol., mikrobiol., imunol., 1958,  
 7, No.1, 57-65

ABSTRACT: 35 persons, who had recovered from typhoid or  
 paratyphoid fever and were bacterial carriers,  
 underwent various methods of treatment: im-  
 muno-therapy and treatment with antibiotics  
 and sulfonamides along with immuno- and chem-  
 otherapy. Kammerfodre has reported success  
 with penicillin-sulfathiazol therapy in some  
 cases (Lancet, 1946, 251, 6319) and treat-  
 ment with penicillin combined with strepto-  
 mycin. It is noted that immuno-therapy re-

CARD: 1/2

2/2

KAROLCEK, J.; DRASKOVICOVA, M.; ODLER, I.

Further studies on immunobiological state of typhoid vectors and immunological principles in typhoid fever. Cesk. epidem. mikrob. imun. 8 no.2:103-106 Mar 59.

1. Obl. ustav epidemiologie a mikrobiologie v Bratislave. J.K., Bratislava, Sasinkova 9.

(TYPHOID FEVER, transm.  
carriers, immuno-biol. aspects (Cz))

KAROLCEK, J.

On the problem of the evaluation of anti-typhoid vaccines. Cesk.  
epidem.mikrob.imun.9 no.5/6:436-438 J1'60.

1. Ustav epidemiologie a mikrobiologie v Bratislave.  
(TYPHOID immunol)  
(VACCINATION)

KAROLCEK, J.; ODLER, I.; DRASKOVICOVA, M.

Immunity reactions in man and animals following inoculation with typhoid vaccines, with special reference to the bactericidal activity of the serum. J. hyg. epidem., Praha 5 no.2:210-223 '61.

1. Institute of Epidemiology and Microbiology, Bratislava.

(TYPHOID immunology) (IMMUNE SERUMS)



BETINQVA, Milena; KAROLCEK, Jan

A contribution to evaluation of hemagglutination in the serological diagnosis of dysentery. Cesk. epidem. mikrob. imun. 10 no.5:302-308 ~~304~~1.

1. Ustav epidemiologie a mikrobiologie v Bratislave.  
(DYSENTERY BACILLARY immunol.) (HEMAGGLTINATION)

- [illegible]

KAROLCEK, J.; RUSINKO, M.; DRASKOVICOVA, M.

Immunological reactivity to typhoid vaccine in subjects with various histories of infection. Bratisl. Lek. Listy 42 no.1:37-41. '62.

1. Z Ustavu epidemiologie a mikrobiologie a z Katedry mikrobiologie Slov. ustavu pre doskol'ovanie lekarov v Bratislave, veduci doc. MUDr. J. Karolcek.

(VACCINATION) (TYPHOID immunol)

KAROLCEK, J.

On the 70th birthday of Dr. Martin Dzuban. Cesk. epidem. 11 no.5:  
337-339 S '62.

(BIOGRAPHIES)

KAROLCEK, J.; DRASKOVICOVA, M.; ODLER, I.

New findings in the immunobiological study of typhoid carriers and of anti-typhoid immunity. J. hyg. epidem. 6 no.4:436-441 '62.

1. Institute of Epidemiology and Microbiology, Bratislava.  
(TYPHOID)

KAROLCEK, J.

CZECHOSLOVAKIA

KAROLCEK, J.

1. Institute of Epidemiology and Microbiology (Ustav epidemiologie a mikrobiologie); 2. Chair of Microbiology SUDL (Katedra mikrobiologie SUDL), Bratislava

Bratislava, Lekarsky obzor, No 2, 1963, pp 83-90

"The Evolution and Present Status of Protective Vaccination for Typhoid Fever and Salmonellosis and the Methods for Evaluating the Immunogenicity of Anti-typhoid Vaccines."



KAROLCEK, J.; ODLER, I.; DRASKOVICOVA, M.; LUZOVA, D.

Use of serologic-immunobiological methods in the diagnosis  
of typhoid carriers. Cesk. epidem. 12 no.4:215-219 JI '63.

1. Ustav epidemiologie a mikrobiologie v Bratislave.  
(TYPHOID) (SALMONELLA TYPHI) (PHAGOCYTES)  
(HEMAGGLUTINATION)

KAROLCEK, J.

On the problem of protective vaccination against typhoid fever.  
Bratisl. lek. listy 2 no.9:558-564 '63.

1. Ústav epidemiologie a mikrobiologie a Katedra mikrobiologie  
SUDL v Bratislave; vedoucí: doc. MUDr. J. Karolcek.

\*



KAROLCEK, J.; RUSINKO, M.; DRASKOVICOVA, M.; ODLEK, I.; BATOROVA, L.

Immune reactions in human beings vaccinated with typhoid O, Vi and O + VI + H vaccines, with special references to the specific bactericidal activity of the serum. J. hyg. epidem. (Praha) 8 no.2:177-189 '64.

1. Institute of Epidemiology and Microbiology and Department of Microbiology of the Slovak Postgraduate Medical Institute, Bratislava.

KAROLCEK, J.; SUTORISOVA, M.; DUBAY, L.; STEFANOVIC, J.

Development and prospects of medical microbiology in Slovakia.  
Cesk. epidem. 13 no.3:129-135 My'64.

1. Ustav epidemiologie a mikrobiologie a katedra mikrobiologie  
SUDL v Bratislave; Ustav lekarskej mikrobiologie a immologie  
Lekarskej fakulty UK [Komenskeho university] v Bratislave;  
Ustav lekarskej mikrobiologie Lekarskej fakulty UPJS [Univer-  
sity P.J.Safarika] v Kosiciach.

*ABOLCHOK, C. J. K.*  
CZECHOSLOVAKIA / Microbiology. Medical and Veterinary Microbiology.

Abs Jour: Referat Zh.-Biol., No 6, 25 March, 1957, 21984

F-5

Author : Karolchek, Odler

Inst : \_\_\_\_\_

Title : Results of Immunobiologic Study of Typhoid Bacilli Carriers.

Orig Pub: Bratisl. lekar. listy, 1956, 1, No 8, 449-460

Abstract: The immunobiologic condition of typhoid bacilli carriers was studied by comparison with a group of healthy individuals who had a past history of typhoid but are not bacilli carriers, and with a group of healthy individuals, who had no past history of typhoid. A number of immunity indices were determined: the presence of O, N and Vi antibodies; specific and non-specific phagocyte index; total quantity of blood globulin and its component parts; bactericidal properties of blood serum; complement content. The specific and non-specific immunity reactions are higher in the typhoid bacilli carrier group than in the other group. The difference is especially marked with regard to the

Card : 1/2

-23-

CZECHOSLOVAKIA / Microbiology. Medical and Veterinary Microbiology.

Abs Jour: Referat Zh.-Biol., No 6, 25 March, 1957, 21984

F-5

specific phagocyte index, and therefore its determination may be used to prove typhoid bacilli carriers. The high immunobiologic indicators of typhoid bacilli carriers witness the presence of active processes of the disease in them with an accompanying reaction of the total organism. On the bacilli carriers who had low indicators of immunobiologic reactions, a stimulating therapy was conducted and then a treatment with antibacterial remedies. The results obtained do not point to immunity defects by which it would be possible to explain the emergence of typhoid bacilli carrying.

Card : 2/2

-24-

KAROLCZAK, B.

Methylthiouracil in treatment of myocardial infarct based on deepening of protective reflexes. Polski tygod. lek. 7 no. 37:1121-1126 15 Sept 1952. (GLML 23:5)

1. Preliminary report. 2. Of the Department of Cardiology (Head-- B. Karolczak, M.D.) of Katowice Municipal Hospital No. 2.

KAROLCZAK, Bronislaw

Distribution of cardiac irritation according to longitudinal polarization theory. Kardiol.polska 1 no.1-2:74-81 1954.

1. Z Oddziału Kardiologicznego Szpitala Miejskiego nr 2. w Stalinogrodzie. Kierownik: dr B. Karolczak, oraz z Zakładu Fizjologii AM w Gdansk. Kierownik: prof. b Szabuniewicz.

(MYOCARDIUM, physiology,

distribution of irritation according to longitudinal polarization theory)

*KAROLCZAK, B.*

KAROLCZAK, Bronislaw

From the dipolar theory of Cybulski to the dipolar series theory.  
Acta physiol. polon. 5 no.4:444-465 1954.

1. Z Oddziału Kardiologicznego Wojewodzkiego Szpitala Specjalistycznego  
w Stalinogrodzie. Kierownik: dr B.Karolczak, oraz z Zakładu Fizjologii  
Akademii Medycznej w Gdansk. Kierownik: prof. dr B.Szabuniewicz.  
(ELECTROPHYSIOLOGY,  
dipolar theory of Cybulski & dipolar series theory)

KAROLCZAK, Bronisław

Synchronocardiography. Postępy hig. med. dosw. 18 no. 5:777-836  
S-O '64.

1. Z Wojewódzkiego Szpitala Specjalistycznego w Katowicach  
(dyrektor: doc. dr. B. Karolczak).



KHROH, J.; KAROLCZAK, S.

Energy transfer in the radiolysis of solid systems. Pt. 1.  
Bul chim Pan 12 no. 3:157-162 '64.

1. Department of Radiation Chemistry, Technical University, Lodz.  
Presented by W. Trzebiatowski.

KAROLEV, A.; KARANOV, R.

Oxidometrical determination of iron after the reduction of ferroionites to ferroions with a lead reducer. Khim i industriia 34 no.1:16-18 '62.

5(1)

SOV/32-25-4-11/71

AUTHORS: Karolev, A. N., Karanov, R. A.

TITLE: Determinations of Calcium Oxide and Silicon Dioxide in the Slag of Lead Melt (Opredeleeniya okisi kal'tsiya i dvukisi kremniya v shlake svintsovoy plavki)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 4, pp 413-415 (USSR)

ABSTRACT: Examinations of the calcium-oxalate precipitation in the presence of iron and other elements in a solution which was obtained after breaking-up with a nitric-acid hydrofluoric-acid mixture were carried out. The oxalate precipitation took place methyl red being used as an indicator. The simultaneous precipitation of lead was prevented by the addition of komplexon III. As the obtained test results show (Table 1), 0.1 - 0.2 g of komplexon III are sufficient for the binding of lead. A course of analysis as well as results of calcium determinations in industrial samples (Table 2) are indicated. For determining  $\text{SiO}_2$  in slags of the lead melt the slightly modified photocolorimetric method (Ref 3) was used. Better results are obtained with the use of silver crucibles (instead of iron or nickel crucibles) for melting the

Card 1/2

Determination of Calcium Oxide and Silicon Dioxide in the Slag of Lead Isot. SOV/32-25-4-11/71

sample with  $\text{Na}_2\text{O}_2$  as no impurities are caused by the crucible material. The thick-walled crucibles (3.5 - 4.5 mm) were made of "Dore" metal in the factory, and outlast 75 - 85 meltings. For the reduction of the silicon-molybdic acid, the weaker reduction agent - Mohr's salt - was used instead of  $\text{SnCl}_2$  (1.0 g/100 ml of solution), and was added to the solution after the leaching of the melt besides hydrochloric acid, nitric acid to avoid an increase in the results. The indicated course of analysis shows that the colorimetric measurement was made on an FEK-M photocolorimeter. Some analytic results are given (Table 3). There are 3 tables and 3 Soviet references.

ASSOCIATION: Svintsovo-tsinkov. zavod, Kyrdzhali, Bolgariya (Lead-zinc Works, Town of Kyrdzhali, Bulgaria,

Card 2/2

5(2)

AUTHORS:

Karolev, A. N., Koychev, M. K.

SOV/32-25-5-6/56

TITLE:

Complexometric Determination of Lead by the Use  
of the Indicator Xylenol Orange and Methylthymol Blue  
(Kompleksometricheskoye opredeleniye svintsa s  
primeneniym indikatora ksilenoloranzha i metiltimolblau)

PERIODICAL:

Zavodskaya Laboratoriya, 1959, Vol 25, Nr 5, pp 546-547 (USSR)

ABSTRACT:

A method was devised for the lead determination in lead concentrations and in various products obtained from their treatment, with xylenol orange (I) and methyl thymol blue (II) being used as indicators. The method is based upon the usual complexometric determination and upon the suggestion contained in (Ref 2) to use (I) and (II) as indicators. After decomposing the sample, lead is precipitated in form of a sulphate and solved in ammonium or sodium acetate. A transition stage was observed to take place with the titration in an acetate medium on the color change of both indicators, which fact renders titration easier. Titration with (I) is recommended with a pH = 5.4 - 5.9. In the case of pH = 5.1 - 5.4 only an acetate chloride mixture may be used to the lead

Card 1/2

Complexometric Determination of Lead by the Use  
of the Indicator Xylenol Orange and Methylthymol Blue

SOV/32-25-5-6/56

sulphate. When using (II) titration should occur with a higher pH (5.7 - 6.5). Secondary elements occurring with lead in lead concentrations do not disturb the determination described; only in the case of a barium content exceeding 2 %, decomposition should be made according to the method (Ref 3), and the further determination should be carried out accordingly. A course of analysis as well as some analytical results (Table) are mentioned. There are 1 table and 2 references, 1 of which is Soviet.

ASSOCIATION: Svintsovo-tsinkovyy zavod, g. Kyrdzhali, Bolgariya  
(Lead-Zinc Factory, Town of Kyrdzhali, Bulgaria)

Card 2/2

KAROLEV, A.M.; KARAN V, R.A.

Complexometric determination of calcium in a lead-calcium alloy. Zav. lab. 30 no.6:674 '64 (MIRA 17:8)

1. Plovdivskiy kombinat tsvetnykh metallov, Bolgariya.

KAROLEVA, V. D., CAND TECH SCI, "REDUCTION ROASTING OF  
ZINC PYRITE <sup>sinter</sup> <sup>a</sup> <sup>layer</sup> IN ~~RIMING LAMINAE~~ MOSCOW, 1961. (MIN OF  
HIGHER AND SEC SPEC ED RSFSR, KRASNOYARSK INST OF NON-  
FERROUS METALS IM M. I. KALININ). (KL, 3-61, 216).



KAROLEVA, V.D., k.t.n.;

Cleaning solutions from arsenic in the hydrometallurgic production of zinc. Min delo 18 no.6:29-31 Je'63.

1. KTSM, Plovdiv.

5 (2)

AUTHORS:

Karanov, R. A., Karolev, A. N. (LAT)

S/032/50/026/01/013/052  
B010/B123

TITLE:

Photocolorimetric Determination of Bismuth in Refined Lead

PERIODICAL:

Zavodskaya laboratoriya, 1960, Vol 20, Nr 1, pp 48 - 50 (USSR)

ABSTRACT:

The bismuth determination in refined lead usually follows the photocolorimetric method suggested by Yu. Yu. Lur'ye and L. B. Ginzburg (Ref 1) which is based upon a reaction with thiourea. The influence of temperature, of the acidity of the solution and concentration of thiourea, of tartaric acid and ions of lead, silver and antimony on the formation of complex compounds  $\{Bi[CS(NH_2)]_3\}^{3+}$ , was investigated. If the lead concentration exceeds 1%, a precipitation occurs and reduced measuring values are obtained since bismuth is absorbed by this precipitate (Table 1). The optimum acidity is obtained at 0.5-1 vol% of nitric acid. An increase of temperature (Fig - diagram), an increase of tartaric acid concentration and a silver content exceeding 30 mg decreases the optical density of the solution with the coloured complex compound. Up to 5 mg antimony does not disturb the determination with

Card 1/2

Photocolorimetric Determination of Bismuth in  
Refined Lead

S/032/50/025/01/013/052  
B010/B123

a higher content the disturbing influence is eliminated by adding 1-2 g of tartaric acid (Table 2). The optimum amount of nitric acid that should be used for dissolving the sample (Table 3) as well as a course of analysis corresponding to obtained test results are stated. The determination accuracy amounts to 0.0002 to 0.002% Bi. There are 1 figure, 3 tables, and 1 Soviet reference.

ASSOCIATION: Svintsovo-tsinkovyy zavod, g. Kyrdzhal, Bolgariya  
(Lead-Zinc Plant, City of Kyrdzhal, Bulgaria)

Card 2/2

KARANOV, P.A.: KAROLEV, A.N.

Extraction-photometric determination of arsenic. Zhur. anal.  
khim, 20 no.5:639-640 '65. (MIRA 18:12)

1. Kombinatsionnykh metallov, Plovdiv, Bolgariya. Submitted  
May 27, 1964.